APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,673	08/31/2001	Glen Salmon	3330/55	1256

			EXAMINER
29858	7590	06/22/2005	WU, QING YUAN

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ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/943,673	SALMON ET AL.
	Examiner	Art Unit	
	Qing-Yuan Wu	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>4/4/05</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-11 and 13-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-11 and 13-33* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *31 August 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-11 and 13-33 are pending in the application.

Claim Rejections - 35 USC § 103

2. '   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-11 and 13-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hunt et al (hereafter Hunt) (U.S. Patent 6,801,919).

4.   Hunt was cited in the previous office action.

5.   As to claim 1, Hunt teaches the invention substantially as claimed including a method for

interfacing between a multi-threaded application and a restrictive back-end processing system,

wherein the back-end processing system requires a thread-dependent connection where a

relationship between a connection and an application thread is maintained [col. 1, lines 35-39;

col. 3, lines 29-48; Fig. 3], the method comprising:

maintaining a single thread to link to the detected thread-dependent connection [col. 1,

lines 59-63; col. 2, line 8; col. 6, lines 39-43; col. 7, lines 31-35];

correlating multiple threads from the multi-threaded application with the maintained

single thread, thereby allowing operations requested by the multi-threaded application over the

multiple threads to be performed on the back-end processing system through the thread-

dependent connection [col. 1, line 67 to col. 2, line 8; col. 2, lines 5-8, lines 29-33; col. 8, lines

17-27; 925-990, Fig. 9].

6.   Hunt does not specifically teach detecting a thread-dependent connection in the back-end

processing system. However, Hunt disclosed an application requesting connection, establishing

connection, accessing, and communication with a database [450, Fig. 4; 1040, 1050, Fig. 10; col.

5, line 60 to col. 6, line 1].

7.   It would have been obvious to one of an ordinary skill in the art at the time the invention

was made, to have recognized that detection have to occur at the database when a connection is

requested from an application and an acknowledgement is made to establish the connection.

8.   As to claim 2, this claim is rejected for the same reason as claim 1 above.

9.   As to claim 3, this claim is rejected for the same reason as claim 1 above. In addition,

Hunt does not specifically teach allocating memory for connection instances. However, Hunt

disclosed the database interface entities as an aggregate resource and the entities are use to

satisfy a database interaction [col. 4, lines 12-15] and releasing of resource when interaction are

completed [col. 6, lines 29-30; col. 7, lines 14-15; col. 8, lines 12-14]. It would have been

obvious to one of an ordinary skill in the art at the time the invention was made, to have

recognized that the resource are allocated for connection instances when interaction was

initialized in order for it to be release when interaction are completed.

10.   As to claims 4-5, this claim is rejected for the same reason as claim 1 above. In addition,

Hunt does not specifically teach reading a header data structure. However, Hunt disclosed a

connection management layer that can be used in a single or multi-threaded environment [col. 3,

lines 63-64]. It would have been obvious to one of an ordinary skill in the art at the time the

invention was made, to have recognized the different abilities of different connectors in various

back-end systems and include various types of interaction between the application and the

database as detection for a thread-dependent connection.

11.   As to claim 6, this claim is rejected for the same reason as claim 1 above.

12.   As to claim 7, this claim is rejected for the same reason as claim 1 above. In addition,

Hunt teaches generating a plurality of simultaneous connections comprising a second thread-

dependent connection, a second single thread [col. 4, lines 18-32].

13.   As to claim 8, this claim is rejected for the same reason as claim 1 above.

14.   As to claim 9, Hunt teaches the invention substantially as claimed including wherein

correlating multiple threads from the multi-threaded application comprises generating a thread

support object to support the relationships between the multiple threads and the maintained

single thread [col. 1, lines 63-66; col. 2, lines 5-8, line 21; col. 4, lines 2-6; 510, Figs. 7-9]. Hunt

does not specifically teach using the thread support object to toggle execution of an operation

between one of the multiple threads and the maintained single thread. However, Hunt disclosed

that the creation of the database query statement through the release statement from the database

query object to the database connection object may occur multiple times and the begin

transaction message to the end transaction message can be repeated multiple times per each of a

plethora of tasks [col. 8, lines 17-27]. It would have been obvious to one of an ordinary skill in

the art at the time the invention was made, to have recognized that each occurrence (i.e. single

access to the connection) represents an execution of only one of the plurality of threads using the

initial connection created by the first thread.

15.   As to claim 10, this claim is rejected for the same reason as claim 9 above. In addition,

Hunt does not specifically teach semaphores. However, it is well known in the art to use

semaphores to restrict access to a share resource in a multiprocessing environment.

16.   As to claim 11, this claim is rejected for the same reason as claim 1. In addition, Hunt

teaches the invention substantially as claimed including a thread consistency support system for

providing thread consistency between a multi-threaded application and a thread-dependent

connector allocated in a restrictive back-end system, wherein the thread-dependent connector

only supports a single thread to link to that connector for operations on that connector and

wherein the multi-threaded application creates multiple threads that attempt to access the

connector [Fig. 2; col. 1, lines 32-39], the system comprising:

an arbiter layer positioned between the application and the thread-dependent connector

[col. 3, lines 32-34], the arbiter layer being configured to receive multiple threads from the

application and to produce a single internal thread from the arbiter layer to the connector upon

which operations of the multiple threads are performed [307, Fig. 7; col. 2, lines 5-8].

17.   As to claims 13-20, these are system claims for performing method claims 1-10; therefore

they are rejected for the same reason as claims 1-10 above.

18.   As to claim 22, this claim is rejected for the same reason as claims 1-2 above.   In

addition, receiving multiple application threads from the connector application program

Interface [307, 650, Fig. 6; col. 4, lines 37-43].

19.   As to claim 21, this is a thread consistency support system claim that corresponds to

method claim 22, therefore it is rejected for the same reason as claim 22 above.

20.   As to claims 23-32, these are computer-readable storing medium claims that correspond

to method claims 1-10, therefore they are rejected for the same reason as claims 1-10 above.

21.   As to claim 33, this is computer-readable storing medium claim that corresponds to

method claim 22, therefore it is rejected for the same reason as claim 22 above.

Response to Arguments

22.   Applicant's arguments filed 4/4/05 have been fully considered but they are not

persuasive.

23.   In the remarks, Applicant argued in substance that:

a.   Hunt does not disclosed or suggest detecting a thread-dependent connection, and

Office Action fails to show a suggestion in the prior art to add this missing element.

24.   Examiner respectfully traversed Applicant's remarks:

25.   In response to applicant's argument that the examiner's conclusion of obviousness is

based upon improper hindsight reasoning, it must be recognized that any judgment on

obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so

long as it takes into account only knowledge which was within the level of ordinary skill at the

time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. *See paragraph 6 above*. Examiner

believed that given the broadest reasonable interpretation of detecting a thread-dependent

connection, Hunt implicitly teaches this limitation by disclosing application requesting

connection, establishing connection, accessing, and communication with a database [450, Fig. 4;

1040, 1050, Fig. 10; col. 5, line 60 to col. 6, line 1].

26.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

27.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

U.S. Patent No. 6,411,986 to Susai et al, U.S. Patent No. 6,434,543 to Goldberg et al teach

connection sharing.

28.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Qing-Yuan Wu whose telephone number is (571) 272-3776. The

examiner can normally be reached on 8:30am-5:00pm.

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Qing-Yuan Wu

Examiner

Art Unit 2194

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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100